

**PHASE GRATING FOCUS MONITOR
USING OVERLAY TECHNIQUE**

Bruno La Fontaine

Jongwook Kye

Harry Levinson

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ABSTRACT

10 An optical tool includes a tool body that is transparent to light. Pluralities of parallel
opaque lines on the body form a first outline in the shape of the square, and a second outline in
the shape of a square which is centrally located relative to and within the first-mentioned square.
Each pair of adjacent parallel lines has therebetween a first region that allows transmission of
light therethrough without changing phase thereof, and a second region alongside the first region
15 that allows transmission of light therethrough while shifting the phase thereof by 90°. The phase
shifting and non-phase shifting regions are positioned so that the images of the outlines provided
by a lens on an object shift in position a substantial amount as the distance between the lens and
the object is changed.